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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/083,839	02/27/2002	Jean-Claude Junqua	9432-000164	6211

27572   7590   09/22/2005

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EXAMINER
HARPER, V PAUL

ART UNIT	PAPER NUMBER
2654	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/083,839	JUNQUA, JEAN-CLAUDE
	Examiner	Art Unit	
	V. Paul Harper	2654	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on <u>02 August 2005</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1,2,4-7 and 9-12</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,2,4-7 and 9-12</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1.   Claims 1, 4-7, 9, 10 and 12 are rejected under 35 U.S.C. 102(e) as being

anticipated by Addison et al. (U.S. Patent 6,865,533), hereinafter referred to as

Addison.

Regarding **claim 1**, Addison discloses a text-to-speech system that includes a

method with the following steps:

- receiving input text into a text-to-speech synthesizing system (Fig. 1, item 12; Fig.

2, item 112; abstract, converting text into speech);

- determining a topic for the input text (Fig. 2, item 114; col. 3, lines 50-63; col. 11,

lines 58-68; col. 18, lines 20-28; when processing the text, artificial intelligence rules

determine general informational content [topic]);

- selecting a speaking style from a plurality of predefined speaking styles based on

the identified topic, where each speaking style correlates to prosodic parameters and is

associated with one or more anticipated topics (col. 11, lines 45-67; styles: male,

female, methodical, etc.; col. 18, lines 20-29; determine the general informational

context [topic]); col. 24, lines 15-21; a style is determined); and

- converting the input text to audible speech using the prosodic parameters (Figs 1-3,

item 34, speech output).

Regarding **claim 4**, Addison teaches everything claimed, as applied above (see

claim 1). In addition, Addison teaches the following:

- converting the input text to corresponding phoneme data (Fig. 1, item 22; col. 8,

lines 33-39);

- applying prosodic parameters to the phoneme data, thereby generating a prosodic

representation of the phoneme data (Fig. 1, item 28; Fig. 2; items 114, 116, 120, and

122); and

- generating audible speech using the prosodic representation of the phoneme data

(Fig. 1, item 34, Figs 2 and 3, Speech Output).

Regarding **claim 5**, Addison discloses a text-to-speech system that includes a

method with the following steps:

- receiving input text (Fig. 1, item 12; Fig. 2, item 112);

- determining semantic information for the input text (Fig. 2, item 114; col. 3, lines 50-

63; col. 11, lines 58-68; col. 18, lines 20-28; when processing the text, artificial

intelligence rules determine general informational content);

- selecting a speaking style from a plurality of predefined speaking styles based on the identified topic, where each speaking style correlates to prosodic parameters and is associated with one or more anticipated topics (col. 11, lines 45-67; styles: male, female, methodical, etc.; col. 18, lines 20-29; determine the general informational context [topic]); col. 24, lines 15-21; a style is determined); and

- customizing an output parameter of a multimedia user interface of the text-to-speech synthesizer system based on the speaking style, where the text-to-speech synthesizer system is operable to render audible speech which correlates to the input text (Figs 1-3, item 34, speech output system).

Regarding **claim 6**, Addison teaches everything claimed, as applied above (see claim 5). In addition, Addison teaches "the step of determining semantic information further comprises determining a topic for the input text" (Fig. 2, item 114; col. 3, lines 50-63; col. 11, lines 58-68; col. 18, lines 20-28; when processing the text, artificial intelligence rules determine general informational content [topic]).

Regarding **claim 7**, Addison teaches everything claimed, as applied above (see claim 5). In addition, Addison teaches "the step of determining semantic information further comprises partitioning the input text into a plurality of context spaces, and determining a topic for each of the plurality of context spaces" (col. 3, line 63 through col. 4, line 3).

Regarding **claim 9**, Addison teaches everything claimed, as applied above (see

claim 5). In addition, Addison teaches "the step of customizing an output parameter

further comprises generating synthesized speech" (Figs. 1-3, item 34, Speech output).

Regarding **claim 10**, Addison teaches everything claimed, as applied above (see

claim 5). In addition, Addison teaches "the step of customizing an output parameter

further comprises correlating the selected speaking style to one or more prosodic

parameters and rendering audible speech for the input text using the prosodic

parameters" (col. 3, lines 50-64).

Regarding **claim 12**, Addison discloses a text-to-speech system with the

following components:

• a text analyzer receptive of input text and operable to determine semantic

information for the input text (Fig. 1, item 12; Fig. 2, item 112, 114);

• a style selector adapted to receive semantic information from the text analyzer and

operable to determine a speaking style for rending the input text based on the semantic

information, where the selected speaking style correlates to one or more prosodic

attributes (col. 24, lines 15-21; a style is determined; Fig. 2, items 114, 116, 120, 122);

• a phonetic analyzer adapted to receive input text from the text analyzer and

operable to convert the input text into corresponding phoneme data (Fig. 1, items 22

and 26);

- a prosodic analyzer adapted to receive phoneme data from the phonetic analyzer

and the prosodic attributes from the style selector, the prosodic analyzer further

operable to apply the prosodic attributes to the phoneme data to form a prosodic

representation of the phoneme data (Figs. 1-3, items 26, 28, 116, 120, 122, 142); and

- a speech synthesizer adapted to receive the prosodic representation of the

phoneme data from the prosodic analyzer and operable to generate audible speech

(Figs 1 and 3, Speech Output).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Addison

in view of Apte et al. (U.S. Patent 6,253,169), hereinafter referred to as Apte.

Regarding **claim 2**, Addison teaches everything claimed, as applied above (see

claim 1). In addition, Addison teaches that the text can be analyzed by the artificial

intelligence unit to determine a topic (col. 11, lines 53-67; col. 18, lines 20-29; where

the analysis will necessarily involve the words represented in the text), which

corresponds to "defining a plurality of anticipated topics, such that each anticipated

topic is associated with keywords that are indicative of the topic." But Addison does

not specifically teach "determining frequency of the keywords in the input text; and

selecting a topic for the input text from the plurality of anticipated topics based on the

frequency of keyword occurrences contained therein." However, the examiner

contends that these concepts were well known in the art, as taught by Apte.

In the same field of endeavor, Apte discloses a method for improving the

accuracy of decision tree based text categorization. Apte's teachings include

determining the frequency of words [keywords] in a document [text] to classify

[associate a topic with] that document (col. 1, lines 45-65).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Addison by specifically providing the

features, as taught by Apte, because it is well known in the art at the time of invention

as an effective means of assigning a topic to text.

3.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Addison

in view of Sutton et al. (U.S. Patent 6,539,354), hereinafter referred to as Sutton.

Regarding **claim 11**, Addison teaches everything claimed, as applied above (see

claim 5). But Addison does not specifically teach "the step of customizing an output

parameter further comprises modifying at least one of an expression of a visually

displayed talking head and another attribute of a visual display." However, the

examiner contends that this concept was well known in the art, as taught by Sutton.

In the same field of endeavor, Sutton discloses methods and devices for

producing and using synthetic visual speech [facial animations] based on natural

coarticulation. In addition, Sutton teaches that the animation can support various voice

characteristics and emotions (Figs. 5A and 6; col. 4, lines 15-20; col. 14, lines 1-17; e.g.

a character emotion can be specified –smile+jawdown+headright).

Therefore, it would have been obvious to one having ordinary skill in the art at

the time the invention was made to modify Addison by specifically providing the

animation functionality, as taught by Sutton, because it is well known in the art at the

time of invention for the purpose of producing realistic visual lipsyncing (col. 2, line 55

through col. 3, line 19).

Response to Arguments

4.   Applicant's arguments filed 8/02/2005 have been fully considered but they are

not persuasive.

5.   Applicant asserts on page 6:

> Addison is directed generally to a method for converting text into
> synthesized speech. Of interest, the Examiner asserts that Addison
> discloses selecting a speaking style based on an identified topic of the
> input text. The Examiner relies on column 24, lines 15-21 to teach this
> aspect of the present invention. Applicant notes that this portion of the
> reference teaches a technique for selecting preferred pronunciation rules
> (see col. 24, lines 54-59), where the pronunciation rules may embody a
> particular expressive style. In this case, the speaking style appears to be
> selected by a certified Lessac practitioner (see col. 23, lines 48-51), but it
> is unclear as to how the speaking style is selected by the practitioner.
> Moreover, once a final rule selection occurs, artificial intelligence
> processing is used to select a suitable pronunciation rule from amongst

the final rule set which may then be applied to input text. Again, it is unclear as to how the artificial intelligence processing selects a suitable rule. At best, the selection appears to be based on the likely listener (see col. 23, lines16-19). Therefore, *Applicant respectfully asserts that Addison fails to teach or suggest selecting a speaking style base on an identified topic of the input text.* (Italics added)

As stated in the rejection, Addison teaches "the artificial intelligence assessment of the text that <u>suggests the style that is appropriate to the **content of the message**</u> to be conveyed and which, in turn is used to drive the acoustic profile of rhythm, tone change, ... for the words in the text to be synthesized." (col. 24, lines 14-20; Fig. 2, e.g. item 114; described in col. 13, lines 45-52 as artificial intelligence processing). Furthermore, Addison teaches the use of "rules which look to such features in the text as the identity of the speaker, ... and the <u>nature of the text</u> [topic]" (col. 11, lines 49-67, e.g. "the text relates to the sea" is a determination of topic). Thus, the examiner maintains that Addison teaches "selecting a speaking style based on an identified topic of the input text."

6.   Applicant asserts on page 7:

> Applicant's invention is likewise directed to a method for generating synthesized speech. However, Applicant's claimed invention recites *"selecting a speaking style from a plurality of predefined speaking styles based on the identified topic, where each speaking style correlates to prosodic parameters"* in combination with other elements of the claims. Independent Claims 1 and 5 have been amended to more clearly define this aspect of the present invention. Since Addison fails to disclose this aspect of the present invention, it is respectfully submitted that Applicant's claimed invention defines patentable subject matter over Addison. Accordingly, Applicant respectfully requests reconsideration and withdrawal of this rejection. (Italics added)

See arguments in §5, above, concerning the determination of topic.

Furthermore, Addison gives an example were the artificial intelligence is used to

determine whether the text indicates that the speaker is slow and methodical, or rapid

(col. 11, lines 60-65), which the examiner interprets as selecting a speaking style [slow,

...etc.] based on an identified topic.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to V. Paul Harper whose telephone number is (571) 272-
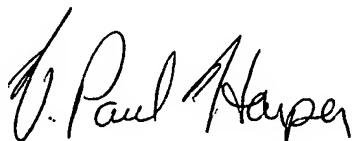
7605. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

9/15/05

V. Paul Harper
Patent Examiner
Art Unit 2654

RICHEMOND DORVIL
SUPERVISORY PATENT EXAMINER